

IN THE CLAIMS

1. (currently amended) A receiving apparatus, comprising:

demodulation means for demodulating a reception signal to a signal on a real axis and a signal on an imaginary axis;

carrier-to-noise (C/N) ratio calculation means for calculating a C/N ratio with amplitudes in an amplitude direction of signal points of the reception signal demodulated by said demodulation means and a C/N ratio with amplitudes in a phase direction of the signal points of the reception signal demodulated by said demodulation means;

phase noise detection means for detecting phase noise based on the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction; and

indication means for indicating the C/N ratios calculated by said C/N ratio calculation means and the phase noise detected by said phase noise detection means; and

a display unit to display the phase noise detected by the phase noise detection means based on the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction as a numeric value.

2. (previously presented) The receiving apparatus as set forth in claim 1,

wherein said demodulation means comprises phase compensation means for compensating a phase with an external compensation signal, and

wherein when the phase noise takes place, said phase compensation means compensates the phase.

3. (currently amended) The receiving apparatus as set forth in claim 1, further comprising an alarm indicator which provides an indication to a user wherein when the phase noise detected based on the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction is equal to or larger than a predetermine value, said indication means indicates an alarm.

4. (canceled)

5. (currently amended) A carrier-to-noise (C/N) ration indication method for a receiving apparatus, the method comprising the steps of:

demodulating a reception signal to a signal on a real axis and a signal on an imaginary axis by use of demodulation means;

calculating a C/N ratio with amplitudes in an amplitude direction of signal points of the reception signal demodulated by said demodulation means and a C/N ratio with amplitudes in a phase direction of the signal points of the reception signal demodulated by said demodulation means;

determining whether phase noise takes place based on the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction; and

indicating the C/N ratios calculated by the calculating step ~~said C/N ratio calculation means and the phase noise determined in said step of determining;~~ and

displaying the phase noise determined by the determining step based on the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio

calculated with the amplitudes in the phase direction on a display unit as a numeric value.

6. (currently amended) The C/N ratio indication method for a receiving apparatus as set forth in claim 5, further comprising providing an indication to a user by use of an alarm indicator ~~wherein~~ when the phase noise determined based on the C/N ratio calculated with the amplitudes in the amplitude direction and the C/N ratio calculated with the amplitudes in the phase direction is equal to or larger than a predetermine value, ~~said indication means indicates an alarm.~~

7. (canceled)